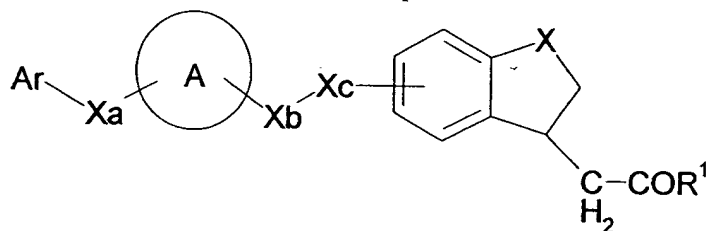
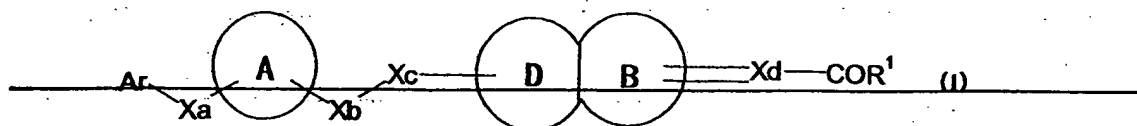


Amendments to the Claims

1. (Currently amended) A compound represented by the formula:



wherein Ar is cyclopropyl, cyclohexyl, phenyl, naphthyl, thienyl, furyl, thiazolyl, oxazolyl, imidazolyl, pyrazolyl, triazolyl, pyridyl, pyrazinyl, benzo[b]thienyl, indolyl or indanyl, ring A is benzene which optionally has 1 to 5 substituent(s) at substitutable position(s) selected from

- (1) halogen atom;
- (2) hydroxy group;
- (3) amino group;
- (4) nitro group;
- (5) cyano group;
- (6) optionally substituted C₁₋₆ alkyl group;
- (7) optionally substituted C₂₋₆ alkenyl group;
- (8) optionally substituted C₂₋₆ alkynyl group;
- (9) C₆₋₁₄ aryl group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group,

mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

(10) C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

(11) C₇₋₁₆ aralkyloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

(12) heterocyclic group (preferably furyl, pyridyl, thienyl, pyrazolyl, thiazolyl, oxazolyl) optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group,

sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

(13) mono- or di-C₁₋₆ alkyl-amino group;

(14) mono- or di-C₆₋₁₄ aryl-amino group;

(15) mono- or di-C₇₋₁₆ aralkyl-amino group;

(16) N-C₁₋₆ alkyl-N-C₆₋₁₄ aryl-amino group;

(17) N-C₁₋₆ alkyl-N-C₇₋₁₆ aralkyl-amino group;

(18) C₃₋₈ cycloalkyl group;

(19) optionally substituted C₁₋₆ alkoxy group;

(20) C₁₋₆ alkylthio group;

(21) C₁₋₆ alkylsulfinyl group;

(22) C₁₋₆ alkylsulfonyl group;

(23) optionally esterified carboxyl group;

(24) C₁₋₆ alkyl-carbonyl group;

(25) C₃₋₈ cycloalkyl-carbonyl group;

(26) C₆₋₁₄ aryl-carbonyl group;

(27) carbamoyl group;

(28) thiocarbamoyl group;

(29) mono- or di-C₁₋₆ alkyl-carbamoyl group;

(30) mono- or di-C₆₋₁₄ aryl-carbamoyl group;

(31) mono- or di-5- to 7-membered heterocyclyl-carbamoyl group;

(32) sulfamoyl group;

(33) mono- or di-C₁₋₆ alkyl-sulfamoyl group;

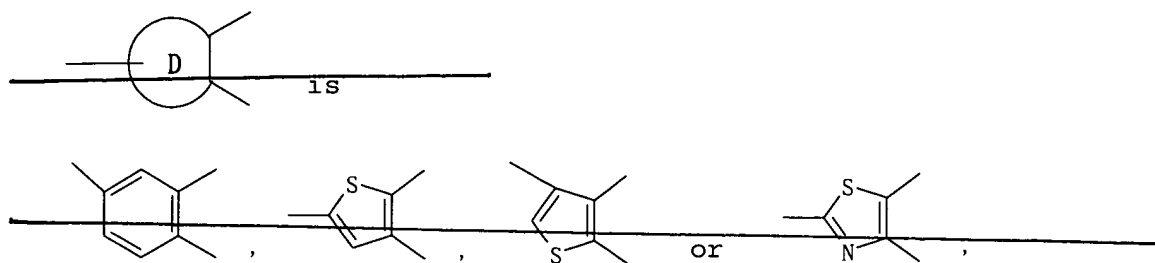
(34) mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

Xa is a bond or a spacer having a main chain of 1 to 5 atom(s),

Xb is (CH₂)_n wherein n is 1 or 2,

Xc is O,

X = -O-, -CH₂-, -CH₂CH₂-, or -CH₂CH₂CH₂-,



~~ring B is a 5 to 7 membered ring;~~

~~Xd is a bond, CH or CH₂;~~

~~..... is a single bond when Xd is a bond or CH₂, or a double bond when Xd is CH;~~

~~R¹ is a hydroxy group or C₁₋₁₀ alkoxy group,~~

~~provided that~~

~~(i) when ring B is a 5 to 7 membered aromatic ring, the ring represented by ring A is not thiophene and furan;~~

~~(ii) when ring B is benzene, the ring represented by ring A is not 5 membered aromatic heterocycle; and~~

~~(iii) when ring B is cyclohexane, Xd is not a bond;~~

~~provided that~~

[6-(4-biphenyl)methoxy-2-tetralin]acetic acid;

methyl [6-(4-biphenyl)methoxy-2-tetralin]acetate;

[7-(4-biphenyl)methoxy-1,2,3,4-tetrahydro-2-oxo-3-quinoline]acetic acid; and

methyl [7-(4-biphenyl)methoxy-1,2,3,4-tetrahydro-2-oxo-3-quinoline]acetate are excluded,

or a salt thereof.

2. (Cancelled)

3. (Original) The compound of claim 1, wherein the cyclic group represented by Ar is an aromatic hydrocarbon group.

4. (Original) The compound of claim 1, wherein Xa is a bond.

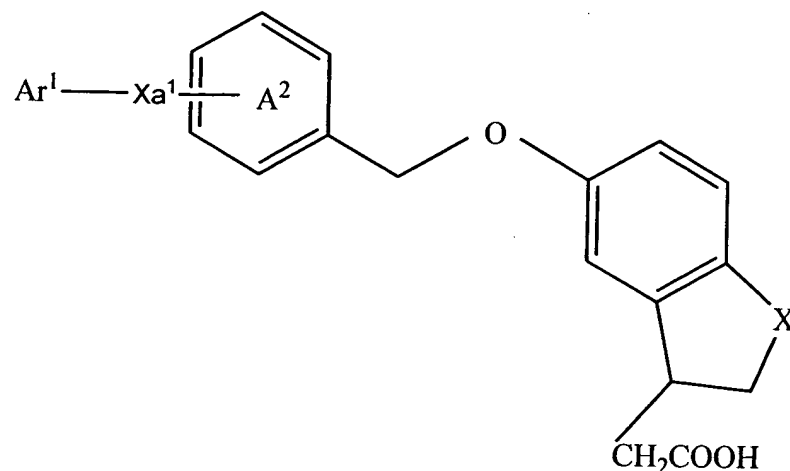
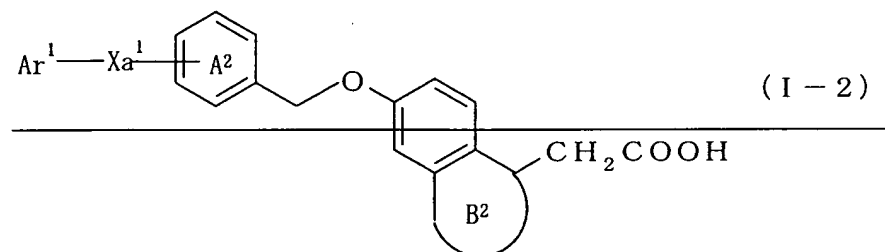
5. (Original) The compound of claim 1, wherein ring A is benzene.

6. (Original) The compound of claim 1, wherein Xb is -CH₂-.

7-11. (Cancelled)

12. (Original) The compound of claim 1, wherein R¹ is a hydroxy group.

13. (Currently amended) The compound of claim 1, which is represented by the formula:



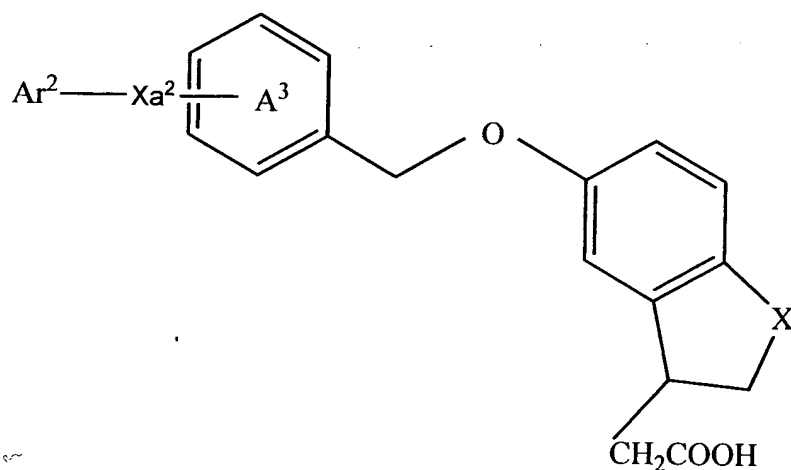
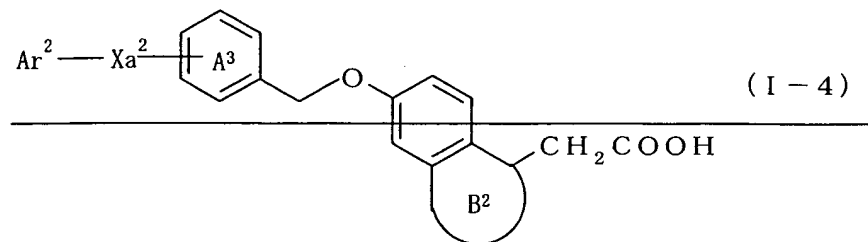
wherein Ar¹ is phenyl group or indanyl group,

Xa¹ is a bond or a spacer having a main chain of 1 to 5 atom(s), and

ring A² is benzene which optionally is substituted by said 1 to 5 substituent(s), and

ring B^2 is a 5- to 7-membered ring.

14. (Currently amended) The compound of claim 1, which is represented by the formula:



wherein Ar^2 is thiazolyl group,

Xa^2 is a bond or a spacer having a main chain of 1 to 5 atom(s), and

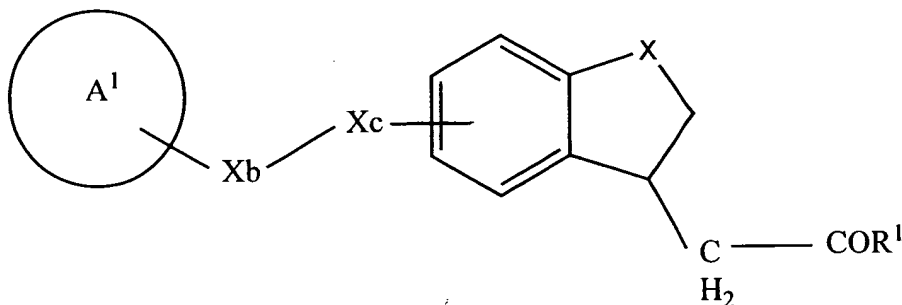
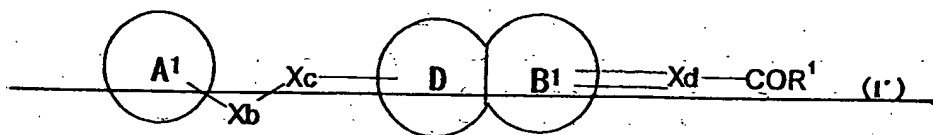
ring A^3 is benzene which optionally is substituted by said 1 to 5 substituent(s), and

ring B^2 is a 5- to 7-membered ring.

15. (Previously presented) A pharmaceutical composition comprising the compound of claim 1 with a pharmacologically acceptable carrier.

16-17. (Cancelled)

18. (Currently amended) A GPR40 receptor function modulator comprising a compound represented by the formula:



wherein ring A¹ is benzene which optionally has 1 to 5 substituent(s) at substitutable position(s) selected from

- (1) halogen atom;
- (2) hydroxy group;
- (3) amino group;
- (4) nitro group;
- (5) cyano group;
- (6) optionally substituted C₁₋₆ alkyl group;

- (7) optionally substituted C₂₋₆ alkenyl group;
- (8) optionally substituted C₂₋₆ alkynyl group;
- (9) C₆₋₁₄ aryl group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;
- (10) C₆₋₁₄ aryloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;
- (11) C₇₋₁₆ aralkyloxy group optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆ alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;
- (12) heterocyclic group (preferably furyl, pyridyl, thienyl, pyrazolyl, thiazolyl, oxazolyl) optionally substituted by 1 to 3 substituent(s) selected from halogen atom, hydroxy group, amino group, nitro group, cyano group, optionally halogenated C₁₋₆ alkyl group, mono- or di-C₁₋₆ alkyl-amino group, C₆₋₁₄ aryl group, mono- or di-C₆₋₁₄ aryl-amino group, C₃₋₈ cycloalkyl group, C₁₋₆

alkoxy group, C₁₋₆ alkoxy-C₁₋₆ alkoxy group, C₁₋₆ alkylthio group, C₁₋₆ alkylsulfinyl group, C₁₋₆ alkylsulfonyl group, optionally esterified carboxyl group, carbamoyl group, thiocarbamoyl group, mono- or di-C₁₋₆ alkyl-carbamoyl group, mono- or di-C₆₋₁₄ aryl-carbamoyl group, sulfamoyl group, mono- or di-C₁₋₆ alkyl-sulfamoyl group and mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

(13) mono- or di-C₁₋₆ alkyl-amino group;

(14) mono- or di-C₆₋₁₄ aryl-amino group;

(15) mono- or di-C₇₋₁₆ aralkyl-amino group;

(16) N-C₁₋₆ alkyl-N-C₆₋₁₄ aryl-amino group;

(17) N-C₁₋₆ alkyl-N-C₇₋₁₆ aralkyl-amino group;

(18) C₃₋₈ cycloalkyl group;

(19) optionally substituted C₁₋₆ alkoxy group;

(20) C₁₋₆ alkylthio group;

(21) C₁₋₆ alkylsulfinyl group;

(22) C₁₋₆ alkylsulfonyl group;

(23) optionally esterified carboxyl group;

(24) C₁₋₆ alkyl-carbonyl group;

(25) C₃₋₈ cycloalkyl-carbonyl group;

(26) C₆₋₁₄ aryl-carbonyl group;

(27) carbamoyl group;

(28) thiocarbamoyl group;

(29) mono- or di-C₁₋₆ alkyl-carbamoyl group;

(30) mono- or di-C₆₋₁₄ aryl-carbamoyl group;

(31) mono- or di-5- to 7-membered heterocyclyl-carbamoyl group;

(32) sulfamoyl group;

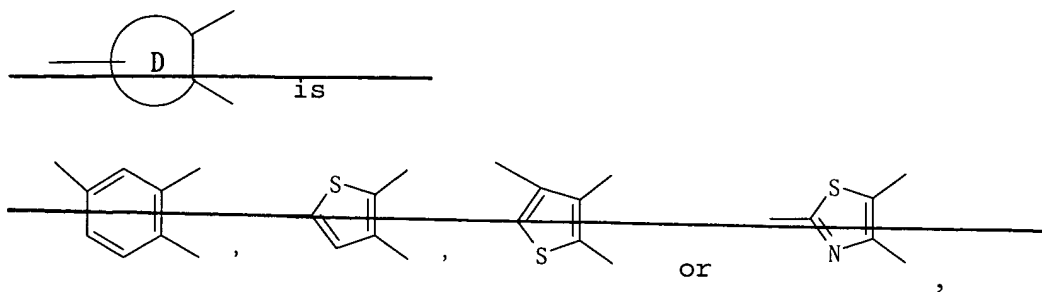
(33) mono- or di-C₁₋₆ alkyl-sulfamoyl group;

(34) mono- or di-C₆₋₁₄ aryl-sulfamoyl group;

Xb is (CH₂)_n wherein n is 1 or 2,

Xc is O,

X = -O-, -CH₂-, -CH₂CH₂-, or -CH₂CH₂CH₂-,



~~ring B¹ is a 5- to 7-membered non-aromatic ring,~~

~~Xd is a bond, CH or CH₂;~~

~~..... is a single bond when Xd is a bond or CH₂, or a double bond when Xd is CH, and~~

R¹ is a hydroxy group or a C₁₋₁₀ alkoxy group, or a salt thereof.

19-20. (Cancelled)

21. (Previously presented) A method for the prophylaxis or treatment of diabetes, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.

22. (Previously presented) A method for promoting insulin secretion, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.

23. (Previously presented) A method of modulating GPR40 receptor function, which comprises administering a therapeutically effective amount of the compound of claim 1 to a patient in need thereof.